

Remarks

The Examiner noted a scrivener's error in claim 2. Claim 2 has been amended to delete the unnecessary word "is" from line 2. The Examiner noted an error in claim 33. Claim 33 has been amended to change the reference from claim 21 to claim 25. The Examiner's careful examination of the claims is appreciated.

The Examiner objected to claim 33 as being a multiple dependent claim in improper form. Applicant has amended claim 33 depend directly from claim 25 and to omit any reference to another claim.

The Examiner rejected claims 1, 2, 15 and 16 as unpatentable under 35 U.S.C. § 102(b) as anticipated by the printed publication entitled "Field Evaluation of a Membrane-Based Separation System for Removing CO₂ from Natural Gas," published by the Gas Research Institute, hereafter "the GRI article." This reference was submitted by Applicant as reference 3 in the Information Disclosure Statement filed with the application ("First IDS"). Reconsideration is requested.

Independent claim 1, as amended herein, defines Applicant's invention as a mobile gas separator system for temporary use at the well site of a natural gas well following stimulation that produces dirty gas. The system comprises a mobile support adapted to be parked temporarily at the well site. A gas separator and a pretreatment assembly are mounted on the mobile support. The gas separator is adapted to remove selected contaminants from dirty natural gas to produce marketable gas, and the pretreatment assembly is adapted to receive dirty gas from the gas well, prepare it for the gas separator, and conduct it to the gas separator. The system includes its own conduit assembly, also mounted on the mobile support, to connect the components of the system.

The GRI article describes a study that showed the efficacy of membrane technology in removing carbon dioxide, water and hydrogen sulfide from gas produced from a well that naturally produced contaminated or dirty gas. The separation system used in this study was permanently installed at the well site and operated for 20 months. In other words, this well was not producing dirty gas temporarily immediately following stimulation, as in Applicant's invention.

While the unit in the GR article is described as "skid mounted," it is *not* mobile. Mounting on skids is a common way of supporting components, even in permanent or semi-permanent installations, because it provides a level and rigid platform for the equipment above ground level. In other words, that fact that it is supported on skids does not mean necessarily that the component (let alone the entire system) is portable or mobile.

Even where some of the components are skid-mounted for stability, permanence of the installation is apparent from the operating period — 20 months. In a system installed for such long-term operation, the conduits connecting the various components would be buried for safety and durability. A similar installation is shown in the photograph included as Figure 2 in the article entitled, "Field Evaluation Supports Applicability of Membrane Processing," submitted as item 4 in the First IDS, hereafter "GRI web page." As shown therein, these installations are large and comprise numerous components on several sets of skids arranged on a large area of land and connected by conduits that are buried to facilitate pedestrian and vehicular traffic in and around the different components.

Accordingly, neither of the GRI references shows a gas separator, pretreatment assembly and a conduit assembly, all mounted on a mobile support, so that the system can be moved from well to well every few days or weeks, as taught by Applicant. See the "Background

of the Invention” at pages 1-2 of the specification. There is no suggestion in the GRI article of such a mobile system; to the contrary, the article is directed to the economics of a permanent installation at a well that naturally and indefinitely produces contaminated gas.

For these reasons, GRI fails to anticipate claim 1. Since claims 2, 15 and 16 depend directly or indirectly from claim 1, these dependent claims likewise are patentable over the GRI article. Accordingly, withdrawal of the Section 102(b) rejection of these claims based on the GRI article is respectfully requested.

The Examiner rejected claims 25 and 27-29 as unpatentable under Section 102(b) as anticipated by the GRI article. Reconsideration is requested.

As defined by independent claim 25, Applicant’s invention comprises a method for processing dirty natural gas to produce marketable gas. As amended herein, the method comprises conducting dirty natural gas from a first gas well *immediately following stimulation* to a mobile gas separation system at the well site of the first gas well. Then, the dirty gas is processed in the gas separation system to produce marketable gas.

As explained above, the GRI article describes a study of the feasibility of using membrane-based technology on a permanent basis at the well site. There is no disclosure or suggestion of using a mobile system “immediately following stimulation,” as required by Applicant’s claim 25. Thus, even if the system shown in the GRI article were considered to be “mobile,” which Applicant disputes for the reasons stated above, there is nothing in the article about utilizing the system “immediately after stimulation.”

In support of the rejection, the examiner stated that the phrase “following stimulation” was interpreted as being “any time following stimulation and not just a period

immediately following stimulation.” To clarify the claimed method, Applicant has added “immediately” to claim 25. As explained in the specification at paragraph 0013,

As used herein, “immediately after stimulation” and similar expressions refer to the period following completion of a stimulation procedure during which the well is producing gas that is not marketable.

The Examiner also states the reference suggests stimulation of the well, without specifically mentioning it, “since the gas well was stimulated during the initial drilling process.” Applicant respectfully disagrees. Gas wells are not stimulated during the drilling phase, and some wells are never stimulated. Thus, absent an explicit indication in the reference that the method was carried out following a stimulation procedure, it is improper to assume it occurred.

Accordingly, claim 25 is not anticipated by the GRI article. Since claims 27-29 depend from claim 25, the method of these dependent claims is also allowable over the GRI article.

The Examiner rejected claim 6 as unpatentable under 35 U.S.C. § 103(a) as obvious over the GRI article. Reconsideration is requested.

Claim 6 depends from claim 1, which has been shown to be novel over the GRI article because there is no teaching in the reference of a totally mobile system, including the conduits to interconnect the components. Neither is such a system rendered obvious by the reference. To the contrary, the purpose of the study reported in the GRI article was to determine the efficacy of long-term gas processing at the well site of well that naturally (permanently) produces dirty gas. Under such circumstances, there is no need for the totally portable system defined by Applicant’s claim 1. Since claim 6 depends from claim 1, claim 6 is likewise unobvious over the GRI article.

The Examiner rejected claim 3 as unpatentable under Section 103(a) as obvious over the GRI article in view of U.S. Patent No. 6,221,131 issued to Behling et al. Reconsideration is requested.

Claim 3 depends from claim 1, which has been shown to be novel and unobvious over the GRI article. There is no suggestion in Behling et al. of a totally portable gas processing system, as defined by claim 1. Accordingly, even the combination of Behling et al. with the GRI article does not render claim 1 obvious. Thus, claim 3 is likewise unobvious over these references.

The Examiner rejected claims 4 and 5 as unpatentable under Section 103(a) as obvious over the GRI article in view of U.S. Patent No. 6,085,549 issued to Daus et al., hereafter "Daus et al. '549." Reconsideration is requested.

Claims 4 and 5 depend from claim 1, which has been shown to be novel and unobvious over the GRI article. There is no suggestion in Daus et al. '549 of a totally portable gas processing system, as defined by claim 1. Accordingly, even the combination of Daus et al. '549 with the GRI article does not render claim 1 obvious. Since claims 4 and 5 depend from claim 1, these dependent claims likewise are unobvious over these references.

The Examiner rejected claims 9 and 10 as unpatentable under Section 103(a) as obvious over the GRI article in view of U.S. Patent No. 4,881,953 issued to Prasad et al. Reconsideration is requested.

Claims 9 and 10 depend from claim 1, which has been shown to be novel and unobvious over the GRI article. There is no suggestion in Prasad et al. of a totally portable gas processing system, as defined by claim 1. Accordingly, even the combination of Prasad et al.

with the GRI article does not render claim 1 obvious. Since claims 9 and 10 depend from claim 1, these dependent claims likewise are unobvious over the cited references.

The Examiner rejected claim 11 as unpatentable under Section 103(a) as obvious over the GRI article in view of Prasad et al. and further in view of Daus et al. '549. Reconsideration is requested.

Claim 11 depends from claim 1, which has been shown to be novel and unobvious over the GRI article. Since there is no suggestion in Prasad et al. or Daus et al. '549 of a totally portable gas processing system, as defined by claim 1, even the combination of both these patents with the GRI article does not render claim 1 obvious. Accordingly, claim 11 also is unobvious over these references.

The Examiner rejected claim 14 as unpatentable under Section 103(a) as obvious over the GRI article in view of U.S. Patent Publication No. 2003/0225159 in the name of Yetman. Reconsideration is requested.

Claim 14 depends from claim 1, which has been shown to be novel and unobvious over the GRI article. There is no suggestion in Yetman of a totally portable gas processing system, as defined by claim 1. Accordingly, Yetman and the GRI article considered in combination do not render claim 1 obvious. Since claim 14 depends from claim 1, claim 14 also is unobvious over these references.

The Examiner rejected claim 17 as unpatentable under Section 103(a) as obvious over the GRI article in view of the GRI web page. Reconsideration is requested.

Claim 17 depends from claim 1, which has been shown to be novel and unobvious over the GRI article. There is no suggestion in the GRI web page of a totally portable gas processing system, as defined by claim 1. Accordingly, whether considered separately or in

combination, the GRI article and GRI web page do not render claim 1 obvious. Therefore, claim 17 also is unobvious over these references.

The Examiner rejected claims 20 and 21 as unpatentable under Section 103(a) as obvious over the GRI article in view of U.S. Patent No. 6,128,919, hereafter "Daus et al. '919." Reconsideration is requested.

Claims 20 and 21 depend from claim 1, which has been shown to be novel and unobvious over the GRI article. There is no suggestion in Daus et al. '919 of a totally portable gas processing system, as defined by claim 1. Accordingly, even the combination of Daus et al. '919 with the GRI article does not render claim 1 obvious. Since claims 20 and 21 depend from claim 1, these dependent claims likewise are unobvious over these references.

The Examiner rejected claim 22 as unpatentable under Section 103(a) as obvious over the GRI article in view of Daus et al. '919, and further in view of U.S. Patent No. 4,617,030 issued in the name of Heath. Reconsideration is requested.

Claim 22 depends from claim 1, which has been shown to be novel and unobvious over the GRI article even if combined with Daus et al. '919. There is no suggestion in Heath of a totally portable gas processing system, as defined by claim 1. Accordingly, even if all three references are considered in combination, claim 1 is unobvious. Since claim 22 depends from claim 1, claim 22 also is patentable over these references.

The Examiner rejected claims 23 and 24 as unpatentable under Section 103(a) as obvious over the GRI article in view of U.S. Patent No. 6,085,528 issued in the name of Woodall et al. Reconsideration is requested.

Claims 23 and 24 depend from claim 1, which has been shown to be novel and unobvious over the GRI article. There is no suggestion in Woodall et al. of a totally portable gas

processing system, as defined by claim 1. Accordingly, even the combination of Woodall et al. with the GRI article does not render claim 1 obvious. Since claims 23 and 24 depend from claim 1, these dependent claims likewise are patentable.

The Examiner rejected claim 30 as unpatentable under Section 103(a) as obvious over the GRI article in view of Daus et al. '549. Reconsideration is requested.

Claim 30 depends from independent claim 25, which has been shown to be novel and unobvious over the GRI article. There is no suggestion in Daus et al. '549 of a method where a mobile gas processing system is used to process gas at a well immediately following stimulation, as defined by claim 25. Accordingly, claim 25 is also patentable over these references, whether considered separately or in combination. Since claim 30 depends from claim 25, claim 30 also is patentable over these references.

The Examiner rejected claim 31 as unpatentable under Section 103(a) as obvious over the GRI article in view of Daus et al. '549 and further in view of Daus et al. '919. Reconsideration is requested.

Claim 31 depends from independent claim 25, which has been shown to be novel and unobvious over the GRI article and Daus et al. '549. There is no suggestion in Daus et al. '919 of a method where a mobile gas processing system is used to process gas at a well immediately following stimulation, as defined by claim 25. Accordingly, claim 25 is also patentable over all three of these references, whether considered separately or in any combination. Since claim 31 depends from claim 25, claim 31 also is patentable over these references.

The Examiner rejected claims 34 and 35 as unpatentable under Section 103(a) as obvious over the GRI article in view of Woodall et al. Reconsideration is requested.

Claims 34 and 35 depend from independent claim 25, which has been shown to be novel and unobvious over the GRI article. There is no suggestion in Woodall et al. of a method where a mobile gas processing system is used to process gas at a well immediately following stimulation, as defined by claim 25. Accordingly, claim 25 is also patentable over these references, whether considered separately or in combination. Since claims 34 and 35 both depend from claim 25, these dependent claims likewise are patentable over these references.

The Examiner objected to claims 7, 8, 12, 13, 18, 19, 26, 32 and 33 as dependent on a rejected base claim, but indicated that they were directed to patentable subject matter and would be allowed if rewritten in independent form. Since Applicant has shown that the claims 1 and 25, as amended herein, are patentable, this objection is moot.

On February 10, 2004, Applicant submitted an Information Disclosure Statement transmitting three foreign references. There is no indication in the Office action that these references were considered by the Examiner. Applicant respectfully requests the Examiner to initial the Form PTO/SB/08A and forward a copy of the initialed form to Applicant.

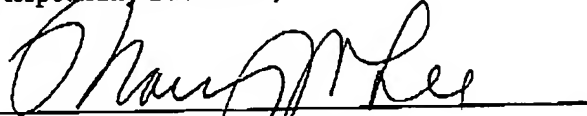
Several amendments of a minor nature have been made to the specification to include references to the specific figures. No new matter is introduced by these changes.

Based on the foregoing, it is submitted that claims 1-35 are patentable over the references of record. A Notice of Allowance is courteously solicited. If the Examiner has any questions or comments concerning the instant application or this Amendment, the Examiner is invited to contact the undersigned.

This is intended to be a complete response to the Office action of January 24,

2005

Respectfully Submitted,



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